

Geometry Unit Test | Study Guide

Directions: Please complete the problems below in preparation for your Geometry Unit Test on **Thursday, April 28th**. Your test will include, but is not limited to, the topics on this study guide. Therefore, in addition to completing this study guide, please spend your time reviewing and actively studying all lessons in this unit.

Lesson 1 | Classifying Polygons

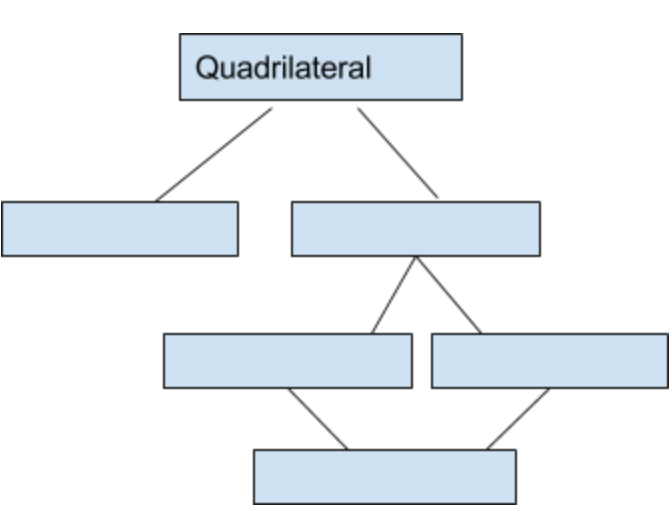
1. List the **4 requirements** that must be met for a shape to be considered a **polygon**.

_____ , _____ , _____ , _____

2. Complete the table.

Polygon	Number of Sides/Angles	Polygon	Number of Sides/Angles
Triangle		Octagon	
	6		9
Pentagon		Heptagon	
	4		10

3. Complete the quadrilateral hierarchy. Use it to help you with the always, sometimes, never chart.



	Always True	Sometimes True	Never True
A parallelogram is a square			
A square is a rectangle			
A trapezoid is a quadrilateral			
A square is a rhombus			
A triangle is a quadrilateral			

4. List all of the possible names for each quadrilateral below. Use the hierarchy from problem #3 to help you.

Lesson 2 | Area of Triangles and Quadrilaterals

Area of a Triangle

$A = \frac{\text{base} \times \text{height}}{2}$ OR $A = \frac{1}{2} \times \text{base} \times \text{height}$

Area of a Rectangle

$A = \text{length} \times \text{width}$ OR $A = \text{base} \times \text{height}$

For each problem, plot the given points to create a polygon. Then, calculate the area of each polygon.

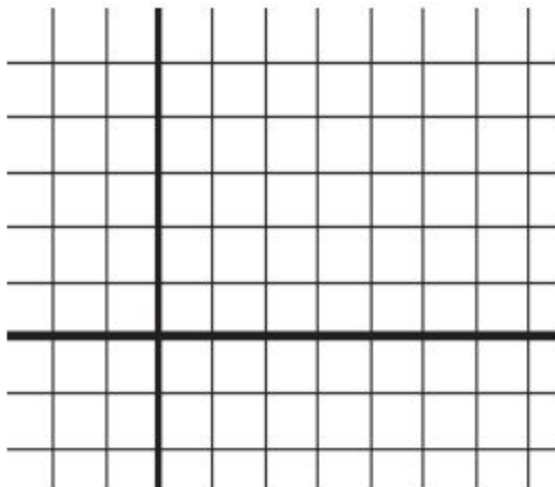
5. Graph the following points:

$C(2, 2)$, $A(6, 2)$, and $B(2, 5)$.

Base: _____

Height: _____

Calculation: _____



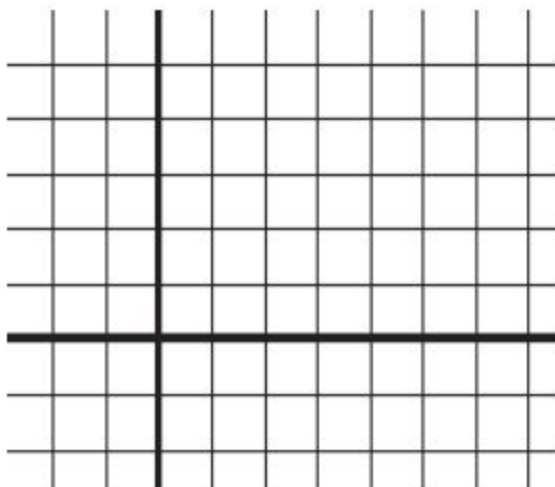
6. Graph the following points:

$A(2, 1)$, $B(6, 1)$, $C(2, 5)$, and $D(6, 5)$

Base: _____

Height: _____

Calculation: _____

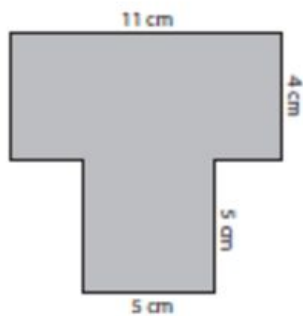


Lesson 3 | Decomposing Polygons

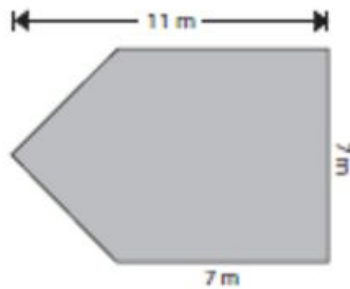
7. To calculate the area of **complex polygons**, follow these 3 steps:

- _____
- _____
- _____

8. Calculate the area of each polygon below:



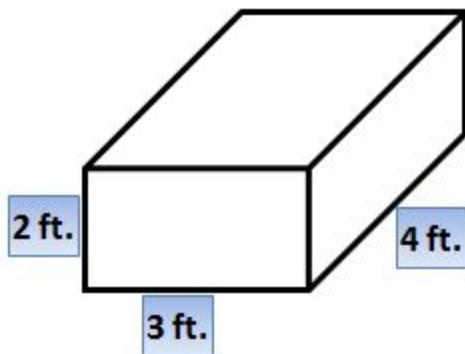
Area = _____



Area = _____

Lesson 4 | Volume of Rectangular Prisms

9. Calculate the volume of the following figure:



10. A teacher is using small blocks to figure out the volume of a rectangular box. Each small block has a volume of 1 cubic inch. The teacher has filled the box using five layers of blocks. Each layer has 20 small blocks. What is the volume of the large rectangular box (in cubic inches)?

